

APPELLANT'S PRE-APPEAL BRIEF REQUEST FOR REVIEW

Application No. 10/649,164

Pre-Appeal Brief Dated September 29, 2006

Reply to final Office Action of May 2, 2006

Attorney Docket No. 4316-031612

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No. : 10/649,164 Confirmation No. : 4762

Applicants : David James Beale et al.

Filed : August 27, 2003

Title : ALUMINUM INGOT CASTING MACHINE

Group Art Unit : 1725

Examiner : Len Tran

Customer No. : 28289

Mail Stop AF

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Sir:

For the reasons set forth herein, Applicants respectfully submit that the Final Action is based upon improper rejections of the claims and does not establish the asserted *prima facie* case of obviousness based on the cited references.

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on September 29, 2006

Lisa R. McNary
(Typed Name of Person Mailing Paper)

Signature Date 9/29/2006

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The claimed invention is directed to an aluminum ingot casting machine comprising a source of molten metal, a rotatable annular ring defining a space inside, and a drive means located substantially outside the inside ring space for indexing ingot casting molds to the source of molten metal by rotating the annular ring. The annular ring has a generally vertical axis of rotation and is sized and shaped to carry a plurality of the ingot casting molds. Moreover, the annular ring defines a space inside of the ring, with the ring being substantially hollow. In particular, claims 1 and 66 recite an “annular ring”, and the specification states at page 16, line 17 to page 17, line 5, that “‘annular’ means substantially hollow...meaning, *inter alia*, that no central drive arms rotate through the space inside the ring”. Accordingly, the claims define an annular ring which is substantially hollow, including no elements within the space inside the ring. Such an open annular ring is discussed in the specification at the above passages as providing specific features to the invention, such as providing easy access from inside of the ring, such as for maintenance, without impediment.

Certain claims of the application have been rejected under 35 U.S.C. §103(a) as allegedly unpatentable over U.S. Patent No. 4,589,467 to Hunter (hereinafter “Hunter”), whether considered alone or in combination with U.S. Patent No. 3,972,368 to Kikkawa et al. (hereinafter “Kikkawa”) or U.S. Patent No. 3,200,451 to Worswick (hereinafter “Worswick”). The final Office Action alleges that Hunter discloses a casting machine comprising a source of molten metal, a rotatable annular ring, shaped to carry a plurality of ingot casting molds, with inner and outer rails, as well as drive means including gears and a sprocket, wherein the drive sprocket can be driven by an AC motor.

Hunter, however, fails to teach or suggest an annular ring defining a space inside of the ring as required by independent claims 1 and 66, i.e. an annular ring that is substantially hollow.

In particular, as seen in Figure 13 and described at col. 8, line 35 of Hunter, the carousel of Hunter does not define a space inside of the ring that is substantially hollow. Instead, the inside of the ring of Hunter contains operational components, including a pneumatic cylinder 100 mounted across the space in the middle of the ring, and additional structure within the interior of the carousel ring (which is labeled “A” in the copies of Figures 13 and 14 provided with the Amendment After Final submitted by Applicants on June 29, 2006) which appears to represent a large portion of the drive mechanism of Hunter. With

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such structures present within the interior space of the carousel ring, the carousel ring of Hunter is clearly not an annular ring defining a space inside of the ring as defined by independent claims 1 and 66. Moreover, the inclusion of such components within the carousel ring of Hunter teaches away from the present invention, which claims an annular ring defining a space inside of the ring. Accordingly, it is apparent that Hunter does not disclose, nor reasonably suggest, the substantially hollow annular ring defining a space inside the ring, as required by claims 1 and 66, and the rejection based on Hunter is therefore improper. The rejection of the claims based on Hunter should therefore be reversed.

Moreover, with respect to independent claim 11 and the rejections based on the combination of Hunter and Kikkawa, Kikkawa is cited merely for disclosing a Y-shaped launder and a skimming apparatus for scraping dross off molten metal. Independent claim 11, however, defines a Y-shaped launder with first and second receiving portions for receiving molten metal. The first receiving portion is positioned to receive molten metal from one crucible, and the second receiving portion is positioned to receive molten metal from another crucible, with a delivery portion extending between these receiving portions to the carousel. As such, two separate sources of molten metal (at the two top legs of the "Y") feed into a single mold position (at the bottom leg of the "Y"). Applicants describe these features on page 5, lines 20 - 25, on page 14, line 31, and in Figures 1, 2, and 3 of the application.

Kikkawa, on the other hand, teaches tilting crucibles which are connected in series to a single source launder that delivers molten metal to two separate mold positions on the mold, as shown in Figures 5-7 of Kikkawa. In other words, Kikkawa teaches feeding from the single leg of a "Y" into the two other ends of the "Y". *In essence, Kikkawa teaches the exact opposite of the invention of claim 11, by teaching a single feed source to two separate molds as opposed to two separate feed sources for a single mold.* The Examiner has failed to consider these claim limitations, which are not disclosed anywhere in Kikkawa.

Clearly Hunter and Kikkawa, whether considered alone or in combination, fail to disclose or suggest such an arrangement involving two receiving portions feeding to a single delivery portion as opposed to one receiving portion feeding into two delivery portions. Accordingly, the rejection of claim 11 and the dependent claims depending therefrom should be reversed.

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Finally, Worswick has been combined with Hunter against a number of the dependent claims of the application merely for its alleged teachings with respect to a water sprayer. Worswick fails to add anything to the deficient teachings of Hunter as already described above. Moreover, Worswick fails to describe Applicants' plurality of nozzles for spraying water onto the molds, as recited in claim 17. In contrast to Applicants' claimed invention, Worswick is limited to circulating water into a space within the mold under the ingot as explained at column 2, lines 9 - 14 of Worswick. Thus, the obviousness rejections based on Hunter in view of Worswick should also be reversed.

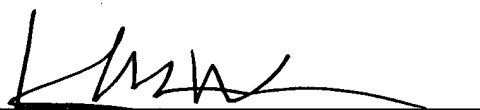
Based upon the above specified numerous clear errors and deficiencies, Applicants assert that a *prima facie* rejection based on either anticipation or obviousness has not been established. It is therefore respectfully requested that the final rejections be withdrawn and reversed and the claims be allowed.

Any questions regarding this submission should be directed to Applicants' undersigned representative, who can be reached by telephone at 412-471-8815.

Respectfully submitted,

THE WEBB LAW FIRM

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